

## **NOISE SUPPRESSION FOR SPEECH SIGNAL IN AN AUTOMOBILE**

### **ABSTRACT OF THE DISCLOSURE**

[188] Techniques for suppressing noise from a signal comprised of speech plus noise. A first signal detector (e.g., a microphone) provides a first signal comprised of a desired component plus an undesired component. A second signal detector (e.g., a sensor) provides a second signal comprised mostly of an undesired component. The adaptive canceller removes a portion of the undesired component in the first signal that is correlated with the undesired component in the second signal and provides an intermediate signal. The voice activity detector provides a control signal indicative of non-active time periods whereby the desired component is detected to be absent from the intermediate signal. The noise suppression unit suppresses the undesired component in the intermediate signal based on a spectrum modification technique and provides an output signal having a substantial portion of the desired component and with a large portion of the undesired component removed.